How and when armed conflicts end: Introducing the UCDP Conflict Termination dataset
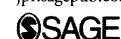
Joakim Kreutz

Uppsala Conflict Data Program, Department of Peace and Conflict Research, Uppsala University

Abstract

This article presents new data on the start and end dates and the means of termination for armed conflicts, 1946–2005. These data contribute to quantitative research on conflict resolution and recurrence in three important respects: the data cover both interstate and intrastate armed conflicts, the data cover low-intensity conflicts, and the data provide information on a broad range of termination outcomes. In order to disaggregate the UCDP-PRIO Armed Conflict dataset into multiple analytical units, this dataset introduces the concept of conflict episodes, defined as years of continuous use of armed force in a conflict. Using these data, general trends and patterns are presented, showing that conflicts do not exclusively end with decisive outcomes such as victory or peace agreement but more often under unclear circumstances where fighting simply ceases. This pattern is consistent across different types of conflict, as is the finding that victories are more common in conflicts with short duration. The article then examines some factors that have been found to predict civil war recurrence and explores whether using the new dataset produces similar results. This exercise offers a number of interesting new insights and finds that the determinants for civil war recurrence identified in previous research are sensitive to alternate formulations of conflict termination data. The findings suggest that intrastate conflicts are less likely to recur after government victories or after the deployment of peacekeepers. If the previous conflict is fought with rebels aiming for total control over government or if the belligerents mobilized along ethnic lines, the risk of recurrence increases. The discrepancy in findings with previous research indicates the need for further study of conflict resolution and recurrence, for which this dataset will be useful.

Keywords

civil war duration, new dataset, peace agreement, victory, war termination

Introduction

This article presents the UCDP Conflict Termination dataset which provides new data on the start and end dates and means of termination for armed conflicts. As systematic research has increasingly focused on conflict resolution and recurrence, in particular studies on civil wars, the need for reliable detailed data has grown (Collier & Sambanis, 2002; DeRouen & Bercovitch, 2008). For studies on conflict or post-conflict duration, precise information on the exact date the fighting began and ended, as well as different types of outcomes, is essential. Still, the collection of this type of data has largely been neglected and not subjected to the same methodological rigor found in datasets used for the study of war onset. Data issues may be underlying mixed results in previous literature on conflict termination, including the question of whether victories or peace treaties increase the risk for conflict recurrence. According to Maoz (1984: 239) 'decisive outcomes and imposed settlements tend to yield longer periods of ... stability than tied disputes'. This argument is supported by Licklider (1995), Senese & Quackenbush (2003), and Fortna (2004), while Diehl, Reifschneider &

Hensel (1996: 694) find that settlements 'allowing the interests of each side to be at least partly satisfied' created more post-conflict stability. Werner (1999), Doyle & Sambanis (2000), and Walter (2004) cannot identify significant effects for either type of outcome.[1]

The new dataset on conflict termination is based on the UCDP-PRIO[2] Armed Conflict dataset (Gleditsch et al., 2002). The UCDP-PRIO dataset has become an increasingly popular tool for systematic analysis of armed conflict for several reasons. First, it focuses not only on international conflicts but also includes intrastate conflicts, or civil wars. Second, it employs a lower battle-death threshold for inclusion

Corresponding author:
joakim.kreutz@pcr.uu.se

[1] Most of these studies concerned interstate conflicts, while Licklider (1995), Doyle & Sambanis (2000), and Walter (2004) focused on intrastate conflict.
[2] Uppsala Conflict Data Program (UCDP), International Peace Research Institute, Oslo (PRIO). The UCDP Conflict Termination dataset version 1.0 presented here is based on the UCDP-PRIO dataset Version 4 – 2006b, covering 1946–2005.

than most other data projects. The contribution of the UCDP Conflict Termination dataset is the identification of precise start and end dates of fighting as well as information about the outcomes of each period of fighting. Furthermore, the disaggregated nature of the data makes it possible to better capture information in countries with multiple conflicts as well as provide an early indication of the recurrence of armed violence in a post-conflict environment. Basing it on the UCDP-PRIO dataset also makes it possible to add information from other datasets using the same format, including peace agreements (Harbom, Högbladh & Wallensteen, 2006), country codes (Gleditsch & Ward, 1999), geographical location (Buhaug & Gates, 2002), and battle-deaths (Lacina & Gleditsch, 2005).

Conflict episodes: The start and end dates of warfare

For the period 1946–2005, the UCDP-PRIO Armed Conflict dataset identifies 231 armed conflicts in 151 locations in the world. Some conflicts are active for just a single year while others continue uninterrupted for decades. However, many conflicts are on-and-off affairs where periods of peace are interrupted by episodes of fighting. The conflict-year structure of the UCDP-PRIO dataset creates some limitations for the users, especially for duration analysis, as the start dates primarily focus on the first outbreak of fighting and the dataset does not supply end dates. In order to complement the existing data, the UCDP Conflict Termination dataset introduces the concept of *conflict episodes* and structures the data to represent the changing patterns of armed activity over the course of a conflict. A conflict episode is defined as a continuous period of active conflict-years in the UCDP-PRIO Armed Conflict dataset.[3] Conflict episodes are determined on the basis of the use of armed force: all active conflict-years that follow upon each other are considered part of the same conflict episode, regardless of whether the fighting involves the same belligerents or other organizations, as long as they contest the same incompatibility. The start date of each conflict episode is the date when a conflict becomes active according to the UCDP-PRIO definitions, fulfilling three criteria: (1) a stated incompatibility, (2) organized groups of which at least one is the government of a state, and (3) armed activity resulting in at least 25 deaths, all of which must be observed in a given calendar year. All three criteria are equally important. Effectively, the start date of the conflict episode is coded at the date when a total of 25 battle-related deaths (in a given year) are registered between the warring parties.[4] The termination dates are defined as the end date of each conflict episode. A conflict

episode ends when an active year is followed by a year in which there are fewer than 25 battle-related deaths. In the event that armed activity re-starts in later years, this is coded as another conflict episode, even if the renewed violence is between the same belligerents as in a previous episode. Focusing specifically on conflict episodes facilitates the study of conflict dynamics, the interplay between negotiations and the use of force, and the role of capabilities in the choice of strategy.

Using the UCDP-PRIO dataset potentially results in exclusion of certain cases. Owing to UCDP-PRIO's reliance on the conflict-year format for the identification of activity, a case with 20 battle-related deaths in year 1 and an additional 5 the following year would not be included. If all 25 deaths had taken place in either year 1 *or* year 2, that year would have been recorded as having a conflict. Also, if a conflict ends after causing 25 deaths in January of year 1 and restarts with 25 new deaths in year 2, both years will be recorded as active, and the Conflict Termination dataset will not include information on the break in fighting. Owing to the low threshold of 25 battle-related deaths for conflict activity, these limitations are likely to influence few cases. In order to avoid misrepresentation of the circumstances around each conflict termination, the UCDP Conflict Termination dataset contains information about both the last year of activity and the first year of inactivity for each conflict episode.

The variables in the new dataset

Besides the start and end dates provided for each conflict episode, the Conflict Termination dataset includes information about the circumstances of each termination coded into four variables: victory, peace agreement, ceasefire agreement, and other outcome. The dataset does not include information about the long-term outcome of the contested incompatibility, such as whether requested political changes actually are implemented and have the desired effects. The focus is specifically on the outcomes that bring the parties to lay down arms.

A *victory* is when one side in an armed conflict is either defeated or eliminated, or otherwise succumbs through capitulation, surrender, or similar public announcement. In ideal cases, a victory is easily identified, as military developments coincide with claims of victory by one side and the other admitting defeat, such as the radio announcement by the president of South Vietnam after North Vietnamese forces invaded Saigon on 30 April 1975. A victory can also be identified without proclamations by the victorious side or a significant military breakthrough if the losing side has lost its ability to maintain armed operations, whether due to arrests, executions, or having been forced to seek refuge in another territory. For example, many members of the Ahlul Sunnah Jamaa organization fighting for an independent Islamic state in northern Nigeria in 2004 were arrested while the rest fled into the swampy plains near Lake Chad. The group did not, however, surrender or cease

---

[3] The UCDP-PRIO Armed Conflict dataset codebook is available at http://www.pcr.uu.se/publications/UCDP_pub/Codebook_v4-2006b.pdf.

[4] In early versions of the UCDP-PRIO Armed Conflict dataset, the variable sub-ID was intended to disaggregate a conflict into separate phases. The sub-ID defined the end of a conflict phase as either a given time period of non-activity or when there were changes in the active belligerents, and it was rarely used. It has subsequently been removed from the UCDP-PRIO dataset.

to exist but the conflict episode is coded as a government victory. It is possible for any defeated party to re-group and resume the conflict after a period of inactivity, just as it is possible for any group that has signed an agreement to renege on the deal. The dataset also includes information about which side in the conflict was victorious.

A *peace agreement* is defined as an agreement concerned with the resolution of the incompatibility signed and/or publicly accepted by all, or the main, actors in a conflict. The agreement should address all, or the central, issues of contention. There is an important distinction to be made between agreements and victories. The latter is a definitive battlefield outcome while peace agreements can be concluded between parties regardless of any reduction in their armed activity. Since the central aspect for identifying termination is focused on the use of armed force, this dataset includes only peace agreements that also end the military behavior of the parties. Conflicts coded as terminated by peace agreement are those where agreements were signed during the last year of conflict activity or the first year of inactivity that follows. The focus thus is on the signing or a verbal commitment by both parties to an agreement, and not whether the agreement is implemented or not. Peace agreements come in a wide variety of types, ranging from the signing of one comprehensive agreement to a process consisting of several separate agreements each focusing on specific aspects of the settlement. This latter type has become increasingly common (Harbom, Högbladh & Wallensteen, 2006).

A *ceasefire* is an agreement between all of the main actors in a conflict that terminates military operations. In contrast to peace agreements, ceasefires (including truces or armistices) do not deal with the incompatibility but codify a mutual cessation of hostilities. Sometimes ceasefires only consist of a pledge to stop attacks, while at other times they include additional measures such as demobilization or withdrawal of forces. It is possible in the UCDP Conflict Termination dataset to select either all types of ceasefires or just those that are accompanied by additional measures. An example of the latter is in the Ogaden conflict between Ethiopia and Somalia in 1964. Following cross-border clashes, the two countries agreed on 30 March to withdraw their forces from the battlefield and pledged to try to solve the issue peacefully. Continued contacts did not resolve the dispute but the two countries officially agreed on 22 September 1964 to eliminate all forms of tension. The border, however, remained as before the fighting and the positions of the two countries with regard to the conflict issue were not resolved. There are some cases where a ceasefire has been agreed to and fighting ends, but where continued negotiations quickly lead to the signing of a more comprehensive peace agreement resolving the incompatibility. One such example is the peace agreement between the government of Sudan and the Sudanese People's Liberation Movement. Fighting was last observed in August 2004; the two parties declared an official ceasefire on 31 December 2004 and a

comprehensive peace agreement was signed in January 2005. In such circumstances, the UCDP Conflict Termination dataset codes the conflict as terminated through the most comprehensive political settlement, in effect finding that this conflict episode ended through peace agreement.[5]

Finally, *other outcome* consists of cases where the conflict ceases without a victory or any type of agreement. For example, fighting may continue but not reach the threshold of 25 battle-related deaths in a year, or a party may choose to withdraw for tactical reasons or due to leadership change, decide to pursue a non-violent strategy instead of armed force, explore the potential of opening up negotiations, or lose important support from a powerful ally. There are also cases when one side in a conflict ceases to exist, is defeated in another simultaneous conflict, or simply withdraws from contesting the incompatibility. This category also includes some cases when the conflict changes type, such as when the intrastate conflicts in China 1949 or South Vietnam 1964 continued in the following year as interstate conflicts between the same parties.[6]

Descriptive statistics on conflict termination, 1946–2005

For the time period 1946–2005, the UCDP-PRIO dataset lists a total of 231 armed conflicts, which can be disaggregated into a total of 403 conflict episodes. In 2005, there were 31 active conflict episodes which leaves 372 terminated episodes in the UCDP Conflict Termination dataset. Table I shows descriptive statistics for terminated conflicts disaggregated into different conflict types. The most common type of termination is 'other outcome', regardless of whether we look at the aggregated totals or separate types of conflict. This is contrary to the general perception that armed conflicts end with either victory or a peace agreement. Disaggregated by type, there are few victories in extrasystemic conflicts. This dataset covers the time period after the Second World War when colonial powers became increasingly reluctant to commit troops and resources to their colonies. As a consequence, countries often withdrew unilaterally or through stipulated agreements providing a process for independence while allowing the colonial powers to control key economic and strategic sectors in the territory. For interstate conflicts, almost 50% of conflicts ended through some sort of negotiated settlement such as a ceasefire or a peace agreement. Despite this apparent willingness of the parties to engage in talks, these settlements more often end with a

---

[5] The agreements must be signed in the last year of fighting or the first year of inactivity that follows. For that reason, conflicts such as the Korean War, which terminated through a ceasefire, would not be considered as terminated by peace agreement if the warring parties were to conclude one today, more than 50 years later.

[6] Case-specific information about all terminations is available in the UCDP database, http://www.ucdp.uu.se/database.

Table I. Descriptive statistics on conflict duration and termination

	Extrasystemic	Interstate	Intrastate	Total
Peace agreement	8	10	39	57
Duration (days), mean	1,941	349	2,068	1,749
Duration (days), median	2,027	222	1,200	1,036
Ceasefire	0	19	31	50
Duration (days), mean	0	563	2,490	1,763
Duration (days), median	0	213	630	365
Victory	4	13	102	119
Duration (days), mean	286	460 (184)*	625	595
Duration (days), median	302	19 (15)*	24	23
Other outcome	9	21	116	146
Duration (days), mean	2,189	472	1,735	1,581
Duration (days), median	1,532	365	647	590

* Estimates excluding the Vietnam war in parentheses.

ceasefire than a peace agreement regulating the conflict issue. Victories are less common in interstate conflicts than in intrastate conflicts. Only one-fifth of interstate conflicts end with a victory compared with more than one-third of intrastate conflicts. However, the majority of intrastate conflicts end without any decisive outcome, which suggests that there are numerous challenges in reaching, implementing, and sustaining a negotiated settlement in these cases.

On average, intrastate conflicts are characterized by longer spells of fighting than interstate conflicts, regardless of the outcome. The median duration for all interstate and intrastate conflict episodes is dramatically lower than the mean duration, meaning that the data are positively skewed by a few cases of long-term conflict activity. One of these outliers, the interstate conflict between North and South Vietnam, almost tripled the average duration of interstate conflicts before ending in victory for the North. The measure of conflict duration provides us with an important insight that is consistent across the three types: conflicts that end with a victory are shorter than others. This empirical pattern suggests that parties often manage to quickly defeat their opponents through military superiority in the beginning of a conflict. If neither party is able to do so, the conflict is more likely to be settled through a negotiated process.

Civil war termination patterns over time

Previous research argues that since the end of the Cold War, the international community has become more willing and competent at mediating conflicts, implying that this results in more negotiated settlements (Mack, 2008). Similarly, Fortna (2005) argues that victories have become less common in intrastate conflicts after 1989, owing to the increased peace-keeping ability of third parties. Table II shows the frequencies of different types of termination for intrastate conflicts during and after the Cold War.[7] It shows that victory was the

Table II. Intrastate conflict terminations over time

1946–89	Intrastate	%
Peace agreement	12	8.5
Ceasefire	2	1.4
Victory	82	58.2
Other	45	31.9
Total	141	100
1990–2005		
Peace agreement	27	18.4
Ceasefire	29	19.7
Victory	20	13.6
Other	71	48.3
Total	147	100

predominant type of conflict termination during the Cold War, but it has since become the least common category. As victories have become increasingly rare, there has been a visible increase in peace agreements and ceasefires, as well as 'other' outcomes in the post-Cold War period. Termination of intrastate conflict was rare in itself during the Cold War, perhaps because many conflicts were proxy wars where the superpowers sustained the belligerents. During the 45 years of the Cold War, a total of 141 intrastate conflict episodes were terminated, while the 15 years post-Cold War have witnessed 147 terminations. This constitutes an almost threefold rise in the annual number of intrastate conflict terminations, which largely explains the decrease in armed conflicts in the same time period.

Application of the new dataset

In order to illustrate how the new UCDP Conflict Termination dataset can be used, the following section examines some factors which previous studies have identified as important for explaining the recurrence of civil wars. Two prominent studies have argued that to fully explore civil war recurrence, it is important to focus not only on the characteristics of the previous conflict, but also on why 'individual farmers, shopkeepers, and

---

[7] There were few or no terminations in the post-Cold War period for interstate and extrasystemic conflicts, and so they are excluded from this analysis.

workers voluntarily choose to enlist in the [rebel] armies' (Walter, 2004: 372). Similarly, Quinn, Mason & Gurses (2007: 175) argue that the necessary structural conditions for a possible renewed conflict often exist in the post-conflict environment but that 'whether it becomes probable is a matter of choice by the potential protagonists'. The authors identify four main empirical themes which could influence the likelihood of conflict recurrence. The first is related to the means of termination of the previous conflict, including deployment of peacekeepers or the partition of a contested territory. The second cluster of variables focuses on conflict issues and whether the belligerents were mobilized along ethnic lines. The third cluster contains indicators relating to the cost of the previous conflict, such as duration and destruction. The fourth cluster consists of variables measuring the post-conflict environment and aspects that could influence a population's willingness to rejoin a rebel army. To examine whether the results from previous research hold using the more detailed data from the UCDP Conflict Termination dataset, previous models are explored using the new data.

Comparing data

There are three main differences between the data used by Walter (2004) and Quinn, Mason & Gurses (2007) and the UCDP Conflict Termination dataset: two regarding the conflict data structure and one concerning the termination information. First, to identify civil wars, Walter and Quinn, Mason & Gurses use data sources that focus explicitly on conflicts with at least 1,000 battle-deaths within a given year (Doyle & Sambanis, 2000; Small & Singer, 1982).[8] Thus, each conflict ends in the year that fighting results in fewer than 1,000 deaths. The UCDP Conflict Termination dataset follows the 25 annual battle-related deaths threshold of the UCDP-PRIO dataset. As a consequence, this dataset includes more conflict episodes and comes closer to measuring the actual start and end of fighting than the other datasets which may be more sensitive to fluctuations in conflict intensity rather than recurrence. Second, the datasets employed by Walter and Quinn, Mason & Gurses are presented in a country-year format, while the UCDP Conflict Termination dataset is designed in a conflict-year format, thus making it possible to observe several different conflicts in the same country at the same time. Walter suggests that 'it is possible that the factors that lead the same set of combatants to restart a war may be very different from the factors that lead a new set of combatants to initiate a new war [in the same country]' (Walter, 2004: 376). This distinction cannot, however, be empirically evaluated using country-year data if several conflicts are active in the same country at the same time. Third, the datasets employed by Walter and Quinn, Mason & Gurses (2007: 182) have a less precise coding of the type of outcome than the UCDP

Conflict Termination dataset. Neither includes an 'other' category, so every time a civil war fails to reach the threshold of battle-deaths, it is considered terminated by either victory or negotiated settlement. Quinn, Mason & Gurses suggest that this approach may be somewhat ambiguous as 'distinguishing a government victory from a stalemate or simply a lull in the conflict is problematic in many cases'.[9]

The dependent variable used in the models in Walter and Quinn, Mason & Gurses is a binary variable measuring recurrence of conflict, and sources for the independent variables are listed in Appendix A. Additional information on operationalizations and robustness tests are available in the online appendix.[10] All results are presented in Table III. Model 1 is based on Walter (2004), and Model 2 is based on Quinn, Mason & Gurses (2007).

Findings

Table III present the results using the UCDP Conflict Termination dataset as the basis for Walter's and Quinn, Mason & Gurses's models. The findings suggest a number of insights. Interestingly, these findings differ from Walter and Quinn, Mason & Gurses. None of the variables suggested by Walter are statistically significant in Model 1, and only peace duration and peacekeepers from Quinn, Mason & Gurses are statistically significant in Model 2.

Focusing first on the termination variables, Walter find that conflicts that end through partition are more likely to resume, while Quinn, Mason & Gurses find that conflicts with rebel victories or peace agreements followed by peace-keeping are less likely to recur. Table III shows that partition has no statistically significant effects on the likelihood of conflict recurrence, in contrast to Walter's findings. Instead, Table III indicates that victory is the only variable significantly correlated with a decreasing likelihood of recurrence in both models. Model 1 indicates that conflicts that end with victory are less likely to recur, and Model 2 indicates that this is particularly true for government victories. In contrast to Quinn, Mason & Gurses, these results suggest that it is government rather than rebel victories that primarily influence the correlation between victory and recurrence. Similar to findings by Quinn, Mason & Gurses (2007), the presence of peacekeeping troops in a country makes a recurrence of conflict less likely.[11]

---

[8] Doyle & Sambanis (2000: 795) primarily focus on the cases with at least 1,000 annual battle-deaths 'although we relaxed that threshold in a few cases'.

[9] For a comparison between the classification of 'outcomes' in the UCDP Conflict Termination dataset and other datasets, see online appendix.

[10] Since there are more observations in the UCDP Conflict Termination dataset, it was not possible to consistently use the same data sources as Walter and Quinn, Mason & Gurses. One of Walter's variables (displaced persons) was also excluded due to data issues, but alternate tests including it did not change the results substantively. See the online appendix for more information.

[11] This finding is significant whether the peacekeeper is coded as a separate variable, as in Model 2, or conditioned on following a peace agreement, see online appendix.

The second cluster of variables focuses on whether conflict issues influence the likelihood of recurrence. None of these variables are statistically significant in the studies by Walter or Quinn, Mason & Gurses. Model 1, however, indicates that conflicts where the belligerents have mobilized along ethnic lines are more likely to recur, but when ethnic conflicts concerning government power are coded as a separate subgroup (ethnic revolution) in Model 2, this variable is no longer significant. Total goals, or when rebels seek a complete overhaul of society rather than limited or partial reforms, also increase the risk of conflict recurrence.

The third cluster of variables is concerned with the costs of the previous conflict. Both Walter and Quinn, Mason & Gurses find that long duration of the previous conflict makes recurrence less likely. Furthermore, Quinn, Mason & Gurses find that large government armies decrease the risk of recurrence and that conflicts with high casualties are more likely to recur. None of these variables are statistically significant in Table III.

The final cluster focuses on measures regarding the post-conflict environment or, as Walter refers to it, the 'living conditions' of the population. Walter finds that a high infant mortality rate[12] decreases the likelihood of conflict recurrence. Quinn, Mason & Gurses find similar results for infant mortality and GDP per capita. Neither Walter nor Quinn, Mason & Gurses find any statistically significant effect for democracy. Table III reports no statistically significant results for variables measuring the living conditions in the post-conflict environment. Finally, in line with Quinn, Mason & Gurses, Model 2 shows that the likelihood of conflict recurrence is greatest in the first years of peace.

Conclusion

This article has presented the central definitions for and data from version 1.0 of the UCDP Conflict Termination dataset. With the help of descriptive statistics and an application of the dataset, the article has shown how the new dataset can contribute to the study of conflict termination and recurrence. The findings suggest a number of insights. By including lower intensity conflicts and more precise information on the start and end dates of fighting, it is possible to identify some civil wars more at risk for recurrence than others. These include when the belligerents are mobilized along ethnic lines or when they are fighting for non-divisible goals rather than limited reforms. Several variables which previous research has suggested as important are not significant here; these include the duration of the earlier conflict and factors related to economic development in the post-conflict environment. Since the data used for earlier studies has coded the end date on the basis of

---

[12] This variable is substituted for life expectancy, illiteracy, and GDP per capita in different models. See online appendix for additional specifications of variables in Table III.

Table III. Logit of recurring intrastate conflict using the new dataset

Variable	Model 1 (Walter)	Model 2 (Quinn, Mason & Gurses)
Termination		
Victory	−0.84 (0.30)***	
Government victory		−1.41 (0.26)***
Rebel victory		−0.54 (0.41)
Peace agreement	−0.24 (0.38)	0.26 (0.34)
Ceasefire		−0.03 (0.32)
Partition	−0.39 (0.82)	
Peacekeepers		−0.84 (0.51)*
Conflict issues		
Ethnic mobilization	0.67 (0.28)**	
Ethnic revolution		0.47 (0.31)
Total goals	0.56 (0.24)**	
Secessionist		0.23 (0.23)
Cost of conflict		
Battle deaths (ln)	−0.02 (0.06)	−0.02 (0.06)
Duration (ln)	−0.01 (0.08)	−0.03 (0.08)
Army size (% of pop.)		3.54 (20.53)
Post-conflict		
Infant mortality (lag)	−0.00 (0.00)	−0.00 (0.00)
GDP/capita (lag)		−0.00 (0.00)
Democracy (lag)	−0.00 (0.01)	−0.01 (0.02)
Controls		
ELF	0.41 (0.45)	
Population (ln)		0.06 (0.07)
Peace years	0.13 (0.12)	−0.06 (0.01)***
Year	0.01 (0.01)	
Spline (1)	0.02 (0.01)***	
Spline (2)	−0.01 (0.00)***	
Spline (3)	0.00 (0.00)***	
Constant	−26.30 (15.87)	−2.36 (0.55)
N	2,969	2,572

Standard errors in parentheses, adjusted for clustering on country.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
Estimations performed using Stata 9.0.

fewer than 1,000 annual battle-deaths, it is possible that the so-called post-conflict environment was actually measured while significant fighting continued. Furthermore, a more disaggregated approach to conflict outcome finds that government victories are less likely to be followed by conflict recurrence, a finding which contrasts with Quinn, Mason & Gurses (2007). Their explanation for that finding presupposes, however, that the recurrence involves the same belligerents, but in fact, other opposition groups may be encouraged by the rebel victory to launch armed struggles. An encouraging finding that is consistent with previous research is that outside support for the peace can be influential: the presence of peacekeepers at the end of a civil war decreases the probability that conflict will resume, even when low intensity conflicts are included in the analysis. Future versions of the UCDP

Conflict Termination dataset will include additional information on peace agreements signed after the end of hostilities. The data will also be disaggregated dyadically in line with recent developments of the UCDP-PRIO conflict dataset (Harbom, Melander & Wallensteen, 2008).

Replication data

Acknowledgements

Funding

References

Abouharb, M Rodwan & Anessa L Kimball (2005) A new dataset on infant mortality rates, 1816–2002. *Journal of Peace Research* 44(6): 743–754.

Buhaug, Halvard & Scott Gates (2002) The geography of civil war. *Journal of Peace Research* 39(4): 417–433.

Collier, Paul & Nicholas Sambanis (2002) Understanding civil war: A new agenda. *Journal of Conflict Resolution* 46(1): 3–12.

DeRouen, Karl R, Jr & Jacob Bercovitch (2008) Enduring internal rivalries: A new framework for the study of civil war'. *Journal of Peace Research* 45(1): 43–62.

Diehl, Paul; Jennifer Reifschneider & Paul Hensel (1996) United Nations intervention and recurring conflict. *International Organization* 50(4): 683–700.

Doyle, Michael W & Nicholas Sambanis (2000) International peacebuilding: A theoretical and quantitative analysis. *American Political Science Review* 94(4): 779–801.

Fortna, Virginia (2004) *Peace Time: Cease-Fire Agreements and the Durability of Peace*. Princeton, NJ: Princeton University Press.

Fortna, Virginia (2005) Where have all the victories gone? War outcomes in historical perspective. Paper presented at the annual meeting of the International Studies Association, Honolulu, 1–5 March.

Gleditsch, Kristian Skrede (2002) Expanded trade and GDP data. *Journal of Conflict Resolution* 46(5): 712–724.

Gleditsch, Kristian Skrede & Michael Ward (1999) A revised list of independent states since the Congress of Vienna. *International Interactions* 25(4): 393–413.

Gleditsch, Nils Petter; Peter Wallensteen, Mikael Eriksson, Margareta Sollenberg & Håvard Strand (2002) Armed conflict 1946–2001: A new dataset. *Journal of Peace Research* 39(5): 615–637.

Harbom, Lotta; Stina Högbladh & Peter Wallensteen (2006) Armed conflict and peace agreements. *Journal of Peace Research* 43(5): 617–631.

Harbom, Lotta; Erik Melander & Peter Wallensteen (2008) Dyadic dimensions of armed conflict, 1946–2007. *Journal of Peace Research* 45(5): 697–710.

Heldt, Birger & Peter Wallensteen (2005) *Peacekeeping Operations: Global Patterns of Intervention and Success, 1948–2004*. Sandö: Folke Bernadotte Academy.

International Institute for Strategic Studies (1998) *The Military Balance 1998/99*. London: Oxford University Press.

Krain, Matthew (2005) International intervention and the severity of genocides and politicides. *International Studies Quarterly* 49(3): 363–387.

Lacina, Bethany & Nils Petter Gleditsch (2005) Monitoring trends in global combat: A new dataset on battle deaths. *European Journal of Population* 21(2–3): 145–166.

Licklider, Roy (1995) The consequences of negotiated settlements in civil wars, 1945–1993. *American Political Science Review* 89: 681–690.

Mack, Andrew, ed. (2008) *Human Security Brief 2007*. Vancouver: Human Security Report Project.

Maoz, Zeev (1984) Peace by empire? Conflict outcomes and international stability, 1816–1976. *Journal of Peace Research* 21(3): 227–241.

Marshall, Monty G & Keith Jaggers (2002) *Polity IV Dataset*, accessed 10 March 2006 (http://www.cidcm.umd.edu/inscr/polity/polreg.htm).

Quinn, J Michael; T David Mason & Mehmet Gurses (2007) Sustaining the peace: Determinants of civil war recurrence. *International Interactions* 33(2): 167–193.

Senese, Paul & Stephen Quackenbush (2003) Sowing the seeds of conflict: The effect of dispute settlements on durations of peace. *Journal of Politics* 65(3): 696–717.

Small, Melvin & J David Singer (1982) *Resort to Arms: International and Civil Wars, 1816–1980*. Beverly Hills, CA: Sage.

Walter, Barbara (2004) Does conflict beget conflict? Explaining recurring civil war. *Journal of Peace Research* 41(3): 371–388.

Werner, Suzanne (1999) The precarious nature of peace: Resolving the issues, enforcing the settlement, and renegotiating the terms. *American Journal of Political Science* 43(3): 912–934.

Appendix A

Data sources for independent variables

Ethnic conflict	Walter (2004), coding of additional cases in accordance with the codebook.
Total goals	Walter (2004) coding of additional cases in accordance with the codebook.
Peacekeepers	Heldt & Wallensteen (2005).
Battle-deaths	Lacina & Gleditsch (2005).
Army size	IISS (1998).
Infant mortality	Abouharb & Kimball (2005).
GDP per capita	Gleditsch (2002).
Democracy	Marshall & Jaggers (2002).
Ethnic heterogeneity	Krain (2005).
Population	IISS (1998).

JOAKIM KREUTZ, b. 1973; Masters in Political Science (Uppsala University, 2002); PhD Candidate in Peace and Conflict Research, Uppsala University (2008–); Project Leader, Uppsala Conflict Data Program (UCDP) Conflict Termination Project. Current research interest disaggregating the study of civil war recurrence.